# WEST NILE VIRUS:

## Alberta's Response Plan (2004)

Alberta

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# Alberta's West Nile Virus Response Plan (2004)

## An Interdepartmental Plan

Under the leadership of the Provincial Health Office, five government departments have expanded and updated a coordinated provincial plan for responding to West Nile virus (WNv) in Alberta.

The five government departments are:

- Alberta Agriculture, Food and Rural Development
- Alberta Environment
- Alberta Health and Wellness
- Alberta Municipal Affairs
- Alberta Sustainable Resource Development

## Purpose of the Plan

To minimize the risk of WNv infection to humans

## Basis of the Plan

Alberta's WNV plan has been modified for 2004 based on:

- Our experience in 2003 in Alberta
- What has been learned about WNv in the USA and other parts of Canada since it was first identified in North America in 1999
- U.S. Centers for Disease Control and Prevention *Epidemic/Epizootic West Nile Virus in the United States: Guidelines for Surveillance, Prevention and Control (2003)*
- Canadian National West Nile virus Review and Planning Meeting 2004
- United States National West Nile virus Meeting 2004

## Key Components

A number of coordinated activities will provide a comprehensive program for:

- Surveillance or monitoring for WNv in Alberta
- Communicating with the public and with professionals
- Targeted mosquito control activities

**Humans**

- Refined lab testing protocols
- Enhanced WNv education program for physicians
- Work with Canadian Blood Services to protect the blood supply
- New protocol for evaluating infants born to WNv infected mothers
- A study of Albertans infected in 2003 including those without symptoms

**Birds**

- Testing of crows, magpies, blue jays and ravens
- Surveillance in southern and central Alberta limited after 6 positive birds
- Focus on northern and western regions

**Horses**

- Information for veterinarians and horse owners
- Epidemiological investigation into horses suspected of having WNv

**Mosquitoes**

- Enhanced surveillance of the virus in adult mosquitoes in southern Alberta
- Funding for municipal programs to reduce numbers of *Culex tarsalis* larvae, based on a WNv community risk assessment.

## WEST NILE VIRUS MONITORING AND RESPONSE

### HUMANS

***All Cases Reported***

Under the authority of the Public Health Act, human cases of WNv infection are reported to public health officials in Alberta.

WN Fever and the more serious form of the disease known as WN Neurological Syndrome are both reported to regional Medical Officers of Health, Alberta Health and Wellness, Health Canada and if necessary, to the Canadian Blood Services.

***Blood Supply Protected***

The Canadian Blood Services will be notified when a person with a suspected or confirmed case of WNv has donated or received blood or blood products. Measures will then be taken by Canadian Blood Services to prevent the possibility of WNv transmission.

***Physicians Alerted***

Once WNv is confirmed in Alberta in a bird, horse, and mosquito pool or in a person who does not have a history of travel to an area with WNv, the Provincial Health Office (PHO) will contact all physicians to ask them to consider WNv when someone presents with specific symptoms.

Medical Officers of Health will also contact key medical personnel such as emergency room physicians, neurologists and infectious disease specialists to discuss enhanced monitoring for WN Neurological Syndrome within the regional health authority.

Infants born to mothers infected with WNv will be assessed by a pediatric specialist.

***WNv Education for MDs***

Resource material is being developed for physicians to ensure that they have the latest information on clinical presentation of WNv infection, treatment, lab testing and reporting.

***Fast Lab Results***

All West Nile virus testing in Alberta will be carried out by the Provincial Laboratory for Public Health (Microbiology).

***Messages to the Public***

On an ongoing basis, the PHO will monitor and report on the number of suspect or confirmed cases of WNv human infections in Alberta.

The numbers of confirmed cases of WNv will be posted on the Alberta Health and Wellness West Nile virus website.

***Prevention Stressed***

A public awareness campaign will inform Albertans of WNv, how it is spread and the measures they can take to protect themselves and their families.

***Ongoing Coordination***

The PHO will participate in the regular F/P/T (Federal/ Provincial/ Territorial) teleconferences that address WNv in Canada. Alberta's Interdepartmental Committee will continue to evaluate Alberta's WNv plan within the context of what is happening in this province, nationally and internationally.

## BIRDS

***Role in Surveillance***

Birds are the natural hosts for WNv. Since 1999, WNv has been identified in over 160 species of wild, captive and domestic birds in North America. Although the majority of these species appear to be unaffected, members of the crow family (Corvids) seem to be highly susceptible to WNv and die soon after infection. Therefore, these birds are widely used as sentinels or early warning indicators of the presence of WNv in a geographic area.

The main purpose of WNv surveillance in birds is to identify the presence of the virus so that steps can be taken to reduce the risk of disease in humans.

***WNv Expected in 2004***

Migratory birds returning to Alberta in the spring will undoubtedly bring WNv back to Alberta. As occurred in 2003, limited bird mortality is likely to occur over a wide geographical range in the spring and early summer. Mosquitoes that bite infected birds will potentially pick up the virus and spread it within an area and then, to other parts of the province throughout the summer.

***Monitoring Dead Corvids***

The wild bird surveillance program in Alberta in 2004 will focus on dead crows, magpies, blue jays, and ravens. These species are relatively widespread throughout the province and they have high WNv mortality. A rapid, reliable diagnostic test will be used to detect the presence of the virus.

The surveillance program will monitor WNv in corvids in the six natural regions in the province - Grassland, Parkland, Foothills, Rocky Mountains, Boreal Forest and Canadian Shield. Ongoing surveillance will be discontinued in areas where the virus was detected last year once there is confirmation of six (6) WNv positive birds in 2004. Albertans will be encouraged to submit birds throughout the summer from regions where the virus has not previously been detected.

***Laboratory Testing***

Because WNv in a dead corvid can be identified in the Fish and Wildlife disease laboratory in Edmonton, results can be quickly made available to health practitioners, the public, veterinarians, and horse owners.

***WNv and Other Species***

The Fish and Wildlife Division of Alberta Sustainable Resource Development, in conjunction with other partners, is particularly concerned about WNv in sage grouse and northern shrikes. In addition, the Division will continue to monitor clusters of unusual mortality, regardless of where, or in what species of wild bird or mammal they occur.

***Messages to the Public***

Information regarding Alberta's WNv surveillance program in birds, information on how to handle dead birds, contact numbers for Fish and Wildlife Offices, numbers of WNv positive birds and answers to frequently asked questions will be available on the Government of Alberta's Fish and Wildlife website.

## HORSES

***Role in Surveillance***

The objective of WNv horse surveillance in Alberta is to identify the presence of the virus so that steps can be taken to reduce the risk of infection in humans and horses.

Because clinical disease in horses can be quite dramatic, horses may be the first species in 2004 in Alberta to be recognized with WNv. Horses, along with corvids, will therefore act as sentinels for WNv in the province.

***Low Risk/Serious Illness***

Although the risk of an individual horse becoming infected with WNv is very low, a small proportion of horses infected with WNv will develop varying degrees of clinical disease. Up to 35% of these sick horses will die or have to be euthanized because of complications resulting from the illness.

***Reporting***

Under the federal Health of Animals Act, WNv in any species is an Immediately Notifiable Disease and the laboratory making the diagnosis must report it to the Canadian Food Inspection Agency.

Under Alberta's Livestock Diseases Act, anyone knowing or suspecting WNv infection in a horse must report the occurrence to the Chief Provincial Veterinarian (CPV) as soon as possible.

***Information for Owners***

Alberta Agriculture, Food and Rural Development (AARFD) and the Alberta Veterinary Medical Association have developed a comprehensive communication plan that informs veterinarians of the surveillance and reporting protocols, and horse owners of the precautions they can take to minimize the risk of WNv to their animals.

Information will be provided to horse owners on steps that can be taken to reduce exposure to mosquitoes that may carry WNv (e.g. reducing mosquito breeding sites, ensuring barns have screening in good repair, applying repellents containing DEET, regularly changing water in water tanks, etc.).

Horse owners will also be advised to consult their veterinarian regarding the use of vaccination to prevent WNv in their horses.

***Messages to the Public***

AAFRD will also provide a fact sheet, articles in Agri-News, public information spots on "Call of the Land" and materials for various stakeholder publications.

Information will be posted on the AAFRD website, and every Friday, the CPV will update the site with respect to the status of WNv in horses in Alberta.

## MOSQUITOES

***Role in Surveillance***

A mosquito surveillance program will continue in Alberta in 2004 with additional surveillance stations established in the south of the province where the risk of virus transmission to humans is expected to be greater.

The purpose of the mosquito surveillance program will be to monitor species and their abundance and to detect the virus so that steps can be taken to reduce the risk of disease in humans.

***Specific Objectives***

To alert the public when the virus has built up to the point of detection in mosquitoes.

To perform WNv testing of selected mosquito pools in different geographical areas of the province.

To study how climate and environmental factors in Alberta influence mosquito survival and virus activity.

This information will be used for a better understanding of the role of the mosquito in WNv transmission in Alberta.

***Larvicide Programs***

In 2004, funding will be provided to municipalities to target control options at the mosquito species most likely to carry West Nile virus. Funding will be allocated in the form of a grant based on a graded scale of risk established by scientific information obtained through 2003 bird, horse, human and mosquito surveillance data.

The target control strategy has been established from the data collected in 2003 in Alberta and across the country. Funds will cover training and certification of pesticide applicators, operational expenses (labour, transportation, mapping, monitoring, application equipment) and chemicals for controlling the vector species (Culex tarsalis) as it develops. The focus will be on standing water through the period from early June to late August. Funding will not support any initiatives directed outside this time period, nuisance control programs, or expenditures directed at controlling adult mosquitoes.

***Adulticide Programs***

Other jurisdictions in the U.S. and Canada have used ground and aerial spraying against adult mosquitoes when WNv was, or was suspected to be, in or near large urban centers. The effectiveness of this wide-scale measure of control remains in question.

The wide spread method of chemically controlling adult mosquitoes is not a component of Alberta's WNv plan because:

- chemically spraying adult mosquitoes is the least efficient method of mosquito control
- spraying adult mosquitoes is only effective for a short duration of time as the pesticide affects only those mosquitoes airborne at the time of the spraying
- the area required to be sprayed must be quite expansive to reduce the impact of mosquitoes migrating from outlying areas

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MOSQUITOES *continued*

- buildings and other physical barriers limit the success of spraying by ground equipment
- spraying adult mosquitoes may have toxic effects on some people and ecosystems (e.g. honey bees, butterflies and other beneficial insect populations)
- at this time, there is no evidence that spraying adult mosquitoes reduces the risk of WNv infection in humans or horses.

***Messages to the Public***

Surveillance results will be reported to all five departments, local municipalities and they will be posted on the Alberta Health and Wellness website.

## COMMUNICATION PLAN

***Specific Objectives***

To inform Albertans about when and where evidence of West Nile virus is identified in Alberta so that they can take steps to reduce their risk of infection.

To inform Albertans of the potential consequences of a WNv infection, and about the steps they can take to avoid being bitten by mosquitoes, the most effective means of reducing the risk of infection.

***Albertans Notified***

As early as possible in 2004, the Government of Alberta will inform Albertans of evidence of West Nile virus in the province, whether in birds, horses, mosquitoes or humans.

Regular updates of West Nile virus evidence in birds, horses, humans and mosquitoes will be posted on the Alberta Health and Wellness website.

***Public Awareness***

Information about West Nile virus and the steps people can take to protect themselves from the disease will be made available to Albertans in a number of ways:

- Beginning in May, a public awareness campaign will remind all Albertans throughout the summer about the simple steps they can take to protect themselves from the disease, and direct them to reliable information through the Government's website: www.gov.ab.ca
- Albertans can also call the Alberta Health Link for more information.